



COMMENT ON LIU ET AL.

# Incidence of Type 1 Diabetes May Be Underestimated in the Chinese Population: Evidence From 21.7 Million People Between 2007 and 2017. *Diabetes Care* 2021;44:2503–2509

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We read the article by Dr. Liu et al. (1) with great interest and thank the authors for their reference to our study (2). As academic physicians of type 1 diabetes (T1D), we welcome discussion to further our collective understanding of the disease to work toward positive outcomes for patients and better inform policy-setting in public health.

Based on population-based registry data collected from the Beijing Municipal Health Commission Information Center, Liu et al. (1) reported that incidence (per 100,000 persons) of T1D significantly increased from 2.72 in 2007 to 3.60 in 2017 in the study population. Such epidemiologic data are certainly important from clinical practice and policy perspectives; however, there are some fundamental questions regarding the methodology and reporting in this study that would benefit from clarification.

First, this study reported data from the greater Beijing area only. Although the sample size is large and includes immigrant populations from other parts of China to Beijing, a direct extrapolation to the general Chinese population, as indicated in the article title, seems imprudent. Further, in the absence of a direct comparison of data used in this study to previous studies in the same population in the same time period, the conclusion that the incidence of T1D may be

underestimated in the Chinese population, as alluded to in the title, appears premature.

Second, it is unclear how the methodology used in this study was able to capture the incidence of T1D, which refers to new-onset cases of a lifetime, as opposed to prevalence. Is it possible that some patients with T1D, especially among adults and immigrant populations, were diagnosed previously but captured for the first time in the registry? Was there a validated procedure to distinguish the actual new-onset cases from such first-captured but not new-onset cases in the registry?

Third, a key pillar of this study is that the “registry data on newly diagnosed cases of T1D were uploaded from all 153 centers in Beijing that were qualified to diagnose T1D” (1). This is important because the diagnosis of T1D, unlike diabetes in general, usually requires a specialist physician. Upon reviewing the annual inspection standards and procedures detailed by the Beijing Municipal Health Commission Information Center, as referenced by the study, it appears that this inspection is generic, in which essential information for differential diagnosis between T1D and other types of diabetes, such as autoantibodies and duration of insulin dependence, are not in scope (3).

This raises questions around the sample qualification criteria used in the study.

In addition, there was a transition from ICD-9 code to ICD-10-CM code during the study period (2007–2017), but this study only reported using ICD-10-CM code as part of case ascertainment.

Given the potential for a population-based registry to inform public health planning, policy-setting, and further population-based studies, a level of rigor should be applied to a study's design, methodology, and reporting. Based on the questions above, this level appears insufficient in the case of this study.

We would appreciate the authors' responses to the questions above.

**Duality of Interest.** No potential conflicts of interest relevant to this article were reported.

## References

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